

## **What is Claimed is:**

1. A double frequency antenna, comprising:

a first substrate having a first surface and a second surface opposing each other, the first surface having a first radiation section to radiate a corresponding first frequency, the second surface having a first ground section; and

5 a second substrate having four L-shape corners, and a first surface and a second surface opposing each other, the first surface having a second radiation section to radiate a corresponding second frequency, the second surface having a second ground section;

wherein the second radiation section of the second substrate has an opening in the center thereof so that the first surface of the second substrate and the first surface of the first substrate are in contact with each other when the second substrate is stacked onto the first substrate, a portion of the first radiation area of the first substrate being exposed, and the non-exposed portion being in contact with the second radiation section of the second substrate.

2. The double frequency antenna of claim 1, wherein the first radiation section of the first substrate comprises:

an elongate first radiation area located in the center of the first surface of the first substrate having a length substantially same as that of the first substrate;

10 a second radiation area consisting of two normal L-shape areas located on two sides opposite to the first radiation area; and

20 a third radiation area consisting of two normal L-shape areas located on two sides opposite to the first radiation area.

3. The double frequency antenna of claim 1, wherein the first ground section of the first substrate comprises:

25 an elongate first ground area located in the center of the second surface having a width smaller than that of the first radiation area;

a second ground area consisting of two normal L-shape areas located on two sides opposite to the first ground area and being formed a mirror relationship with the second radiation area; and

5 a third ground area consisting of two normal L-shape areas located on two sides opposite to the first ground area and being formed a mirror relationship with the third ground area;

wherein the first ground area is located between L-shape bottoms of the second ground area and the third ground area.

4. The double frequency antenna of claim 1, wherein the second radiation section of the second substrate comprises:

10 an elongate first radiation area located in the center of the first surface of the second substrate;

a second radiation area having a zigzag section which consists of a first L-shape area connecting to a second L-shape area, the second L-shape area having a width smaller than that of the first L-shape area and mating a corner shape of the second substrate; and

15 a third radiation area located on an opposite side of the first radiation area forming a mirror relationship with the second radiation area

5. The double frequency antenna of claim 1, wherein the second ground section of the second substrate comprises:

20 an elongate first ground area located in the center of the second surface of the second substrate;

a second ground area formed a mirror relationship with the second radiation area of the first surface of the second substrate; and

a third ground area formed an a mirror relationship with the third radiation area of the first surface of the second substrate;

25 wherein the first ground area is spaced from the second ground area and the third ground

area, and has an opening on one side thereof abutting the first ground surface.

6. The double frequency antenna of claim 1, wherein the first frequency conforms to IEEE 802.11a standards.
7. The double frequency antenna of claim 1, wherein the second frequency conforms to IEEE 802.11b standards.

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